REMARKS

Claims 47-126 are pending. In this Response, claims 47, 53, 55, 57, 61, 64, 67, 71, 74, 77, 81, 84, 94, 104 and 124 have been amended.

I. SECTION 112, FIRST PARAGRAPH REJECTIONS

Claims 47-50, 53-56, 108-113, 115, 118-123 and 126 are rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventors at the time the application was filed had possession of the claimed invention.

The Examiner asserts that "Claim 47 in addition to being ambiguous by providing at least four distinct possibilities of the placement of signals is not supported by the specification as originally filed. Having a first pattern with a first frequency in the burst area and a second pattern with a second [frequency] in the AGC area is not disclosed by the specification."

Applicant respectfully disagrees. The specification is replete with statements indicating the inventors contemplated placing the first and second data patterns in a wide variety of regions on the disk:

> In one aspect of the present invention, a disk drive is provided that comprises a disk having a first data pattern with a first frequency and a second data pattern with a second, higher frequency on a first track. (Page 4, lines 13-16).
>
> The first and second data patterns can be stored anywhere within the first track. In one embodiment, the patterns are stored in a servo data region of the first track. To decrease overhead on the disk, the patterns can be stored in standard servo fields, such as the automatic gain control (AGC) field and/or the C/D servo burst fields. Alternatively, a dedicated servo field can be created for one or both of the patterns. (Page 5, lines 16-22).

For example, the first data pattern and the second data pattern can both be located in a servo sector immediately preceding a data area on the first track. (Page 5, line 26 to page 6, line 2).

For example, to measure read signal resolution, a burst having a first frequency can be read from the disk surface to create a first analog signal portion and then a burst having a second, higher frequency can be read from the disk surface to create a second analog signal portion. (Page 17, lines 2-7).

It should be appreciated that although the present embodiment of the invention is implemented in a system using an embedded servo scheme, the invention can also be implemented in systems using dedicated or hybrid servo schemes. (Page 17, line 24 to page 18, line 2).

Although the present invention has been described in conjunction with its preferred embodiments, it is to be understood that modifications and variations may be resorted to without departing from the spirit and scope of the invention as those skilled in the art readily understand. For example, the patterns used to determine or sense read signal resolution do not have to be located within the servo portion of the disk surface but, alternatively, can be located in a data region on the disk. This can be useful, for example, in a system using dedicated servo techniques. In addition, the AGC field 40 can be modified to include both the high and the low frequency patterns used to determine the read signal resolution. For example, an alternating pattern of high and low frequencies can be implemented in the AGC field 40 so that the channel can set its gain using the low frequency portion and measure read signal resolution using the high frequency portion. Such modifications and variations are considered to be within the purview and scope of the invention and the appended claims. (Page 30, line 21 to page 31, line 13).

The specification includes three embodiments describing the first and second data patterns. In the first embodiment shown in Fig. 3, the first data pattern is in the AGC field and the second data pattern is in the C and D bursts. In the second embodiment shown in Fig. 6, the first data pattern is in the AGC field and the second data pattern is in the C and D bursts. In the third

embodiment shown in Fig. 7, the first data pattern is in the AGC field and the second data pattern is in the E burst.

Thus, the specification sets forth that the "first and second data patterns can be stored anywhere within the first track," and provides numerous examples, such as "the patterns can be stored in standard servo fields, such as the automatic gain control (AGC) field and/or the C/D servo burst fields. Alternatively, a dedicated servo field can be created for one or both of the patterns," "the patterns used to determine or sense read signal resolution do not have to be located within the servo portion of the disk surface but, alternatively, can be located in a data region on the disk. This can be useful, for example, in a system using dedicated servo techniques. In addition, the AGC field 40 can be modified to include both the high and the low frequency patterns used to determine the read signal resolution," and the three embodiments in Figs. 3, 6 and 7.

Although the specification could have contained even more drawings and text explicitly showing and discussing more examples of where the first and second data patterns could be located, in view of the existing language, this would have been redundant and unenlightening.

Based on the foregoing, Applicant respectfully submits that the specification conveys that the inventors contemplated all of the features in claim 47, including placing the first data pattern in the burst field and the second data pattern in the AGC field.

The Examiner also asserts "The specific location of the two patterns with respect to each other as set forth in claims 108-113, 115, 118-123 nor having both patterns used in servo positioning as set forth in claim 126 is not supported by the specification."

Claims 108 and 118 recite "the first and second data patterns are circumferentially spaced from one another." This is clearly contemplated by the specification's board teachings as to placement of the first and second data patterns. Furthermore, this is explicitly shown in Figs. 3, 6 and 7.

Claims 109 and 119 recite "the first and second data patterns each intersect a centerline of the first track." This is clearly contemplated by the specification's board teachings as to placement of the first and second data patterns. Furthermore, this is explicitly shown in Figs. 3, 6 and 7.

Claims 110 and 120 recite "the first data pattern is circumferentially adjacent to a first user data field on the first track." This is clearly contemplated by the specification's board teachings as to placement of the first data pattern. Furthermore, this is explicitly shown in Figs. 3, 6 and 7.

Claims 111 and 121 recite "the second data pattern is circumferentially adjacent to a second user data field on the first track." This is clearly contemplated by the specification's board teachings as to placement of the second data pattern. Furthermore, this is explicitly shown in Figs. 3, 6 and 7.

Claims 112 and 122 recite "the first and second data patterns are circumferentially adjacent to and separated by a region of the first track that is devoid of a user data field." This is clearly contemplated by the specification's board teachings as to placement of the first and second data patterns. Furthermore, this is explicitly shown in Figs. 3, 6 and 7.

Claims 113 and 123 recite "the region of the first track contains two servo bursts between the first and second data patterns." This is clearly contemplated by the specification's board teachings as to placement of the first and second data patterns. Furthermore, this is explicitly shown in Figs. 3 and 6.

Claim 115 recites "only one of the first and second data patterns provide servo positioning information." This is clearly contemplated by the specification's board teachings as to placement of the first and second data patterns. Furthermore, this is explicitly shown in Figs. 3 and 6.

Claim 126 recites "both the first and second data patterns provide servo positioning information." This is clearly contemplated by the specification's board teachings as to placement of the first and second data patterns. Furthermore, this would be apparent from the statement "The first and second data patterns can be stored anywhere within the first track. In one embodiment, the

patterns are stored in a servo data region of the first track. To decrease overhead on the disk, the patterns can be stored in standard servo fields, such as the automatic gain control (AGC) field and/or the C/D servo burst fields. Alternatively, a dedicated servo field can be created for one or both of the patterns."

Therefore, Applicant respectfully requests that these rejections be withdrawn.

II. SECTION 112, SECOND PARAGRAPH REJECTIONS

Claims 47-50, 53-56, 61, 94 and 104 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter of the invention. The several basis for rejection are discussed below.

Claims 47-50 and 53-56 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite because claim 47 has ambiguous meanings.

The Examiner asserts that "Claim 47 sets forth 'one of the first and second data patterns is located in one of the AGC and burst fields.' This language is considered indefinite because of ambiguous meanings it provides."

Applicant respectfully disagrees. The language is simple and straightforward. Claim 47 covers any of the following features: (1) the first data pattern is located in the AGC field, (2) the first data pattern is located in the burst field, (3) the second data pattern is located in the AGC field, and (4) the second data pattern is located in the burst field. That is, claim 47 requires that one or more of these four features be present.

Furthermore, various dependent claims add clarity by specifying subsets of these features. For instance, claim 49 recites "the second data pattern is located in the AGC field," claim 50 recites "the second data pattern is located in the burst field," and claim 53 recites "the first data pattern is located in the AGC field and the second data pattern is located in the burst field." Although claim 47 is clear on its face, these dependent claims further clarify the scope of claim 47.

The Examiner apparently considers claiming in the alternative to be ambiguous. This would abolish Markush practice. Alternative expressions are permitted if they present no uncertainty or ambiguity with respect to the question of scope or clarity of the claims. See M.P.E.P. § 2173.05(h), page 2100-170 (July, 1998).

Claims 61, 94 and 104 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite because of omitted essential structural cooperative relationships.

The Examiner asserts "It is not clear how the 'transition detector', 'counter' and 'memory' as set forth in claims 61, 94 and 104 are used in combination with each other or exactly the purpose of each of these elements in the determination of proper flying height. Omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections is considered a incomplete claim."

In the interests of expediting resolution of this issue, claim 61 has been amended to delete the memory and recite "an output of the transition detector is coupled to an input of the counter," and claims 94 and 104 have been amended to recite "an output of the transition detector is coupled to an input of the counter, and outputs of the counter and the memory are coupled to an output of the detection circuit."

Therefore, Applicant respectfully requests that these rejections be withdrawn.

III. DOUBLE PATENTING REJECTIONS

Various claims are provisionally rejected over claims of U.S. Serial No. 09/439,702, filed on November 15, 1999 based on obviousness-type double patenting. A Terminal Disclaimer based on the '702 application has been filed concurrently herewith.

The filing of a terminal disclaimer to obviate a rejection based on nonstatutory double patenting is not an admission of the propriety of the rejection. *Quad Environmental*

Technologies Corp. v. Union Sanitary District, 20 USPQ 2d 1392 (Fed. Cir. 1991). See also M.P.E.P. § 804.02, page 800-26 (July, 1998).

Therefore, Applicant respectfully requests that these rejections be withdrawn.

IV. CONCLUSION

In view of the amendments and remarks set forth herein, the application is believed to be in condition for allowance. Should any issues remain, the Examiner is encouraged to telephone the undersigned attorney.

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231, on August 4, 2000.

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Respectfully submitted,

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